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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/899,520	07/05/2001	Damion Searls	5038-68	9906

20575 7590 10/29/2004

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EXAMINER	
PRIZIO JR, PETER	

ART UNIT	PAPER NUMBER
2674	8

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/899,520	SEARLS ET AL.	
	Examiner	Art Unit	
	Peter Prizio	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 July 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment filed 24 March 2004.

Claim Status

2. Claims 1 – 33 are pending in the instant application.

3. Claims 1 – 33 are rejected.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. **Claims 1 – 3, 7 – 10, 12 – 16, 22, 24 – 28, and 31 – 33** are rejected under 35 U.S.C. 102(a) as being anticipated by US Patent 6,144,358 to Narayanaswamy et al. (Narayanaswamy).

6. Regarding claim 1, Narayanaswamy (Figs. 1A and 1B) teaches a display subsystem for a portable handheld device (100) comprising: a main display screen (106) configured for fixed mounting to a housing (housing illustrated in fig. 1B of device 100) of a portable handheld device; an auxiliary display screen (104) configured for adjustable (column 2, lines 44 – 52) mounting to the housing and for deployment by a user to a position for viewing thereby concurrent with viewing by the user of the main

display screen (as shown in fig. 1B, the user can view the content on both of the screens); and a display screen drive mechanism (308, fig. 3) including a dual-screen video memory (column 3, line 66) having a main segment and an auxiliary segment (column 3, line 66 – column 4, line 10, where "each display driver could know which subset of those image signals to retrieve from memory" i.e. the driver for the main display would go to the main memory segment and the auxiliary driver would go to the aux memory segment to retrieve its respective data); and an interface between said memory and said main screen and between said memory and said auxiliary display screen (column 3, line 64+, where each driver interfaces with only a single display device and it also retrieves image signals from memory, so therefore each memory segment interfaces to each display), said interface adapted to enable pixel data from the main segment of said video memory to be presented on said main display screen and to enable pixel data from the second segment of said video memory to be presented concurrently on said auxiliary display screen (column 3, line 60 – column 4, line 10).

7. Regarding claim 2, Narayanaswamy, as applied to claim 1 above, further teaches said interface selectively enables pixel data from said second segment of said video memory to be presented on said auxiliary display screen (again column 3, line 60 – column 4, line 10, where the image signals are generated and stored in memory and the driver retrieves the respective image signals and drives the display, therefore enabling pixel data from the second segment of the memory to be presented on the auxiliary display).

8. Regarding claim 3, Narayanaswamy, as applied to claim 1 above, further teaches the auxiliary display screen is mounted to the housing for pivotal movement relative to said main display screen (column 2, lines 45 – 47, where the display will pivot about the axis in the hinge).

9. Regarding claim 7, Narayanaswamy, as applied to claim 1 above, further teaches, the dual-screen video memory is configured to store pixel data in said first and second segments thereof representing a substantially contiguous display to be presented on said main display and said auxiliary display (column 3, line 60 – column 4, line 10 and column 2, lines 33 – 43 where the memory is divided into segments and the displays act as one large screen).

10. Regarding claim 8, Narayanaswamy, as applied to claim 1 above, further teaches a user input mode control mechanism (column 3, lines 34 – 50) operable to control whether said first and second segments of said dual-screen video memory stores pixel data representing a substantially contiguous or substantially discontiguous display to be presented on said main display and said auxiliary display (column 4, lines 41 – 46).

11. Regarding claim 9, Narayanaswamy, as applied to claim 1 above, further teaches wherein said auxiliary display screen is movably but substantially inseparably mounted to the housing (column 2, lines 44 – 52, where the hinge keeps the displays together).

12. Regarding claim 10, Narayanaswamy, as applied to claim 1 above, further teaches wherein said auxiliary display screen is intimately physically attached to the housing (see fig. 1B, both displays are attached using a hinge).

13. Regarding claim 12, Narayanaswamy, as applied to claim 1 above, further teaches the interface includes a hardware rendering mechanism to couple at least one of said main display screen and said auxiliary display screen to a respective one of said first and second segments of said video memory (column 2, lines 6 – 15, where the driver processes the signals/commands implemented in hardware).

14. Regarding claim 13, Narayanaswamy, as applied to clam 1 above, further teaches the auxiliary display screen is a flat panel (column 2, line 45, LCD).

15. Regarding claim 14, Narayanaswamy, as applied to clam 1 above, further teaches the auxiliary display screen is mounted to the housing in a configuration such that an edge of the auxiliary screen is adjacent an edge of the main screen (see fig. 1B, main screen 106 is adjacent to auxiliary screen 104).

16. Claim 15 contains similar limitations to those of claim 1 and therefore the rational for rejection will be the same. Narayanaswamy further teaches a processor (column 2, lines 6 – 15, where the processing is performed by some type of processor) and a keyboard mounted on an exterior face of the housing (column 3, lines 35 – 39), the keyboard configured for key entry to effect pixel image displays on one or more of said main display and auxiliary display (column 3, lines 39 – 50).

17. Claim 16 contains similar limitations to those of claim 3 above and therefore the rationale for rejection will be the same.

18. Claim 22 contains similar limitations to those of claim 7 above and therefore the rationale for rejection will be the same.

19. Claim 24 shares similar limitations to those of claim 12 above and therefore the rationale for rejection will be the same.

20. Claim 25 shares similar limitations to those of claim 13 above and therefore the rationale for rejection will be the same.

21. Claim 26 shares similar limitations to those of claim 14 above and therefore the rationale for rejection will be the same.

22. Claims 27 and 28 recite a method claim that contains similar limitations to the apparatus claim 1 above and therefore the rational for rejection will be the same.

23. Claim 31 shares similar limitations to those of claim 7 above and therefore the rationale for rejection will be the same.

24. Claim 32 contains similar limitations to those of claim 15 above and therefore the rational for rejection will be the same. Narayanaswamy further teaches a main display includes a touch-sensitive screen (column 3, lines 45 - 50); wherein said first screen image video memory to store pixel data for said main display represents user input functions (column 3, lines 35 – 45 wherein after the signals are fed back to the image generator, it will then update the signal and store it in the memory i.e. column 3, lines 65+); and wherein said second screen image video memory to store pixel data for said auxiliary display represents user output functions (column 4, lines 20 – 33).

25. Regarding claim 33, Narayanaswamy, as applied to claim 27 above, further teaches providing the main display with a touch-sensitive screen (column 3, lines 45 - 50); storing pixel data for said main display in said first screen image video memory, the pixel data for said main display representing user functions (column 3, lines 35 – 45

wherein after the signals are fed back to the image generator, it will then update the signal and store it in the memory i.e. column 3, lines 65+); and storing pixel data for said auxiliary display in said second screen image video memory, the pixel data for said auxiliary display representing user output functions (column 4, lines 20 – 33).

Claim Rejections - 35 USC § 103

26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

27. **Claims 4, 11, 19, 21, and 23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Narayanaswamy.

28. Regarding claim 4, Narayanaswamy, as applied to clam 3 above, further teaches the interface between said memory and said auxiliary display screen includes a spirally or helically wound flexible ribbon cable to physically enable the pixel data from the second segment of said video memory to be presented on said auxiliary display screen. Though Narayanaswamy does not specifically teach the type of interface connection, but merely states there is a way to transfer the data signal stored in the memory to the display devices (column 3, line 60 – column 4, line 10), to those skilled in the art it is known that an interface between memory and a display screen can be any type of cable including a flexible cable or ribbon cable to physically enable the pixel data from the

video memory to be presented on the display screen where it is also known that flexible ribbon cables can bend, twist, and straighten depending on the space needs of the housing and hinge arrangement.

29. Regarding claim 11, Narayanaswamy, as applied to clam 1 above, further teaches the interface includes a high-speed video replay mechanism to couple at least one of said main display screen and said auxiliary display screen to a respective one of said first and second segments of said video memory (column 3, lines 19 – 33, where the video replay mechanism is the connection between the display and the memory where the video signals are transferred to be displayed via the driver).

30. Claim 19 shares similar limitations to those of claim 4 above and therefore the rationale for rejection will be the same.

31. Claim 21 shares similar limitations to those of claim 4 above and therefore the rationale for rejection will be the same.

32. Claim 23 shares similar limitations to those of claim 11 and therefore the rationale for rejection will be the same.

33. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ any type of cable to permit transfer of the video image signal from the memory to the displayed on a display that is hinged to the housing that would continue to allow the hinge to operate properly.

34. **Claims 5, 6, 17, 18, 20, 29, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Narayanaswamy in view of US Patent 6,643,124 to Wilk.

35. Claim 5 contains similar limitations as claim 1 and therefore the rationale of rejection will be the same with the exception of the added limitation of the auxiliary display screen is mounted to the housing for sliding movement relative to said main display screen between a first stowed position substantially within the housing and a second deployed position substantially external thereto. Narayanaswamy fails to teach a secondary display mounted to the housing for sliding movement relative to the main display screen, however, Wilk (fig. 6) teaches a portable computing device with auxiliary displays (76, 78) that is stored inside a main display (72) for sliding movement relative to the main display (column 6, lines 21 – 31).

36. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the portable display device as taught by Narayanaswamy with sliding "wing" panels as taught by Wilk for the benefit of being able to selectively deploy the sliding panels as needed in tight spaces (column 4, lines 1 – 18).

37. Claim 6 contains similar limitations as those of claim 4 above and therefore the rationale for rejection will be the same.

38. Claim 17 contains similar limitations to those of claim 5 and therefore the rationale for rejection will be the same. Narayanaswamy further teaches a processor (column 2, lines 6 – 15, where the processing is performed by some type of processor) and a keyboard mounted on an exterior face of the housing (column 3, lines 35 – 39), the keyboard configured for key entry to effect pixel image displays on one or more of said main display and auxiliary display (column 3, lines 39 – 50).

39. Regarding claim 18, Wilk, as applied to claim 17 above, further teaches the auxiliary display is slidable for stowage to an interior of the housing (column 6, lines 21 – 31), and wherein said auxiliary display is slidable to deploy the same to an exterior of the housing for viewing (see fig. 6).

40. Claim 20 shares similar limitations to those of claim 18 above and therefore the rationale for rejection will be the same.

41. Claim 29 recites a method claim that contains similar limitations to the apparatus claim 5 above and therefore the rational for rejection will be the same.

42. Claim 30 recites a method claim that contains similar limitations to the apparatus claim 6 above and therefore the rational for rejection will be the same.

Response to Arguments

43. Applicant's arguments, see pages 13 - 14, filed 24 March 2004, with respect to the rejection(s)of claim(s) 1 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Narayanaswamy.

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following publications have been included to further show the state of the art of auxiliary display panels that are moveably coupled to a main housing thereby increasing the total display area without increasing the device footprint:

US Patent Application Publication 2002/0158812 to Pallakoff

US Patent 6,262,785 to Kim

US Patent 6,545,669 to Kinawi et al.

US Patent 6,512,497 to Kondo et al.

US Patent 5,790,371 to Latocha et al.

US Patent 6,331,840 to Nielson et al.

US Patent 6,107,988 to Phillipps

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Prizio whose telephone number is (703) 305-5712. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe can be reached on (703) 305-4709. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Prizio
Examiner
Art Unit 2674

Prizio
28 October 2004
PP

Henry N. Tran

HENRY N. TRAN
PRIMARY EXAMINER